

2016 Wisconsin Land and Water Conservation
Annual Report



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Department of Agriculture, Trade and Consumer Protection

Division of Agricultural Resource Management

2811 Agriculture Drive, PO Box 8911, Madison, WI 53708-8911

(608) 224-4620

datcp.wi.gov



Department of Natural Resources

Bureau of Watershed Management

101 S. Webster St., WT/3, Madison, WI 53703

(608) 264-6261

dnr.wi.gov

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Acknowledgments

2016 Land and Water Conservation Board Members

Mark Cupp - *Chair*
Eric Birschbach
Caitlin Frederick
Lynn Harrison
Dale Hood
Robin Leary
Mary Anne Lowndes
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John Petty
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Francisco Arriaga, *UW-CALS*
Greg Biba, *USDA-FSA*
Jimmy Bramblett, *USDA-NRCS*
Kurt Calkins, *WI Land + Water*
Ken Genskow, *UW-Extension*
Jim VandenBrook, *WI Land + Water*

Agency Contacts

Coreen Fallat
Corinne Johnson

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Introduction

Soil and water conservation. The phrase sounds as if you're talking about two kinds of conservation. But soil and water conservation are just two sides of the same coin. Save the soil, and you protect the water.

This 2016 Wisconsin Land and Water Annual Report shines a light on some of the ways we're working to save soil and protect water in Wisconsin. You'll read about farmer-led conservation efforts: Farmers leading farmers, often focusing on healthy soil that stays put and keeps nutrients

where they belong instead of running off into surface and groundwater. We have a story about a water resource program, the Conservation

Reserve Enhancement Program, which relies on filter strips and buffers and grasses to hold soil in place. We feature a story about a watershed project that aims to restore a trout fishery by installing conservation practices on the land above the stream, and a story about a new outreach tool that demonstrates just what a hard rainfall can do to the soil.

Conservation is just too important and too big for any one organization or landowner. Fostering partnerships between landowners and agencies, among agencies, with private groups, and between neighbors is what gets the job done. Whether through a pooling of financial resources, sharing expertise or building relationships, these partnerships are what it takes to achieve conservation goals. This collaborative approach to conservation is how we do conservation in Wisconsin.

Save the soil,
and you protect
the water.

Conservation Funding in Wisconsin in 2016

\$8,803,594

in state funding available for local conservation staff.

\$8,425,803

in state funding spent in 2016 to cost-share conservation practices (\$3,287,677 from DNR and \$5,138,126 for DATCP).

\$648,195

in state funding to support training and the development of conservation tools and standards.

\$5,320,000

in local funding for agricultural and urban conservation projects and easements, including county levy and other local sources.*

\$1,880,000

in local funding from other sources that include grants, donations, and membership organizations.*

\$45,600,000

from federal conservation programs through USDA-NRCS for conservation activities with the majority of funding coming through the Environmental Quality Incentives Program (\$23.9 million) and the Conservation Stewardship Program (\$13.6 million).

**As reported by counties in March 2017*

Farmers Leading the Way for Soil and Water Conservation

Producer-led conservation is a new approach to an old problem. That's how Dan Sitz sums it up.

Sitz, the county conservationist in Pierce County, works with the South Kinni Farmer-Led Watershed Council. The old problem? Getting farmers onboard to protect soil and water. The new approach? Learning how to do that from their neighbors instead of a government agency.

Farmer-led conservation was already making inroads in northwestern Wisconsin and Dane County when the Legislature funded a new grant program beginning in 2016 – Producer-Led Watershed Protection (PLWP) grants. Administered by the Department of Agriculture, Trade and Consumer Protection, and offering \$250,000 a year to farmer-led groups, the program has enhanced the working relationship between some county land conservation offices and landowners.

Wisconsin's producer-led watershed protection grant program

15 total producer-led groups awarded a grant
\$242,500 in grants in 2016 (9 new, 5 existing)
\$197,065 in grants in 2017 (1 new, 10 existing)

Five farmer-led groups existed in the state when the grant program kicked in. Four were in northwestern Wisconsin, working under one coordinator funded by a McKnight Foundation grant and the DNR since 2012. The other was Yahara Pride Farms, working in Dane County since 2011. The South Kinni group that works with Sitz is one of those four original groups. Today, there are 17 farmer-led groups in Wisconsin, 15 of them organized with the help of PLWP funding.

Brad Peterson is the lead farmer in the South Kinni group. Early on, he recalls, the group was putting its efforts into redoing grass waterways and streambank restoration, but last year spent about a third of its budget on cover crops.

In fact, most of the groups are focusing a good deal of their time and money on cover crops —



Mark Hazuga, WDNR, reviewing in-stream monitoring progress for the Rocky Branch sub-watershed of the Kinnickinnic River as part of the South-Kinni Farmer-Led Watershed Council winter workshop.

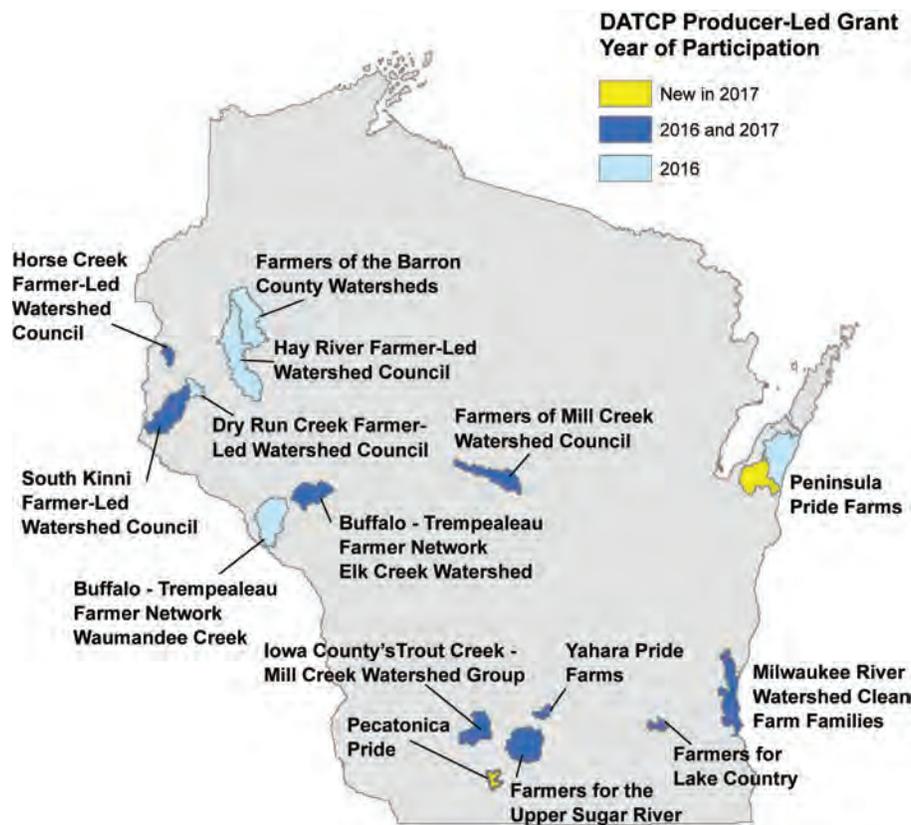
planting test plots, paying incentives to farmers to try them, hosting field days and conferences. But they're also looking at low-disturbance manure injection, offering incentives for soil testing and phosphorus indexing, providing nutrient management training, encouraging no-till planting, doing conservation "walkovers" to spot problem areas on farms, and a host of other activities.

Polk County conservationist Eric Wojchik works with another of those early northwest Wisconsin groups, the Horse Creek Farmer-Led Watershed Council. "Our office got involved when it was pitched to us in 2012," he says. A Lake St. Croix total maximum daily load (TMDL) project implementation team had identified citizen engagement from both the agricultural and the lake community as a priority. The group's efforts zeroed in on two watersheds – Squaw Lake and Horse Creek – listed as impaired waters because of phosphorus levels.

County conservation departments provided over 5,500 hours of assistance to producer-led groups in 2016

Continued on page 5

Producer-led watershed initiatives awarded a grant from DATCP in 2016 and 2017



Activity Summary for South Kinni and Horse Creek Farmer-Led Councils and the Milwaukee River Watershed Clean Farm Families

South Kinni Farmer-Led Watershed Council

The Council's primary tool is incentives to farmers who try new conservation methods. For 2013-2015, the group offered \$1.35 per foot for grassed waterway construction, \$4 an acre for soil sampling and \$250 for farm walkovers with a conservation technician. In 2016, the council added two new incentives: \$25 per acre for planting cover crops and reimbursement for buffer strip seeds. Successes in 2016 include 5 walkovers, which led to completed projects; more than 1½ miles of grassed waterways constructed; 195 acres of soil tested; 1 acre of buffer strips installed; and 195 acres of cover crops seeded.

Horse Creek Farmer-Led Watershed Council

Education has been a major focus of the Horse Creek group. An annual seminar with high-profile speakers draws a large attendance. They have a test plot to replicate field trials, and update

their incentives annually. Soil sampling, cover crops, phosphorus indexing and manure spreader calibration are among the practices that continue to be promoted through incentives.

Milwaukee River Watershed Clean Farm Families

In fall 2016, this group planted a 5-10 acre site in 5 different cover crop mixes using different tillage and planting methods to compare results. An information session on tillage and low-disturbance manure injection brought in 3 implement dealers with equipment that farmers could try. Clean Farm Families offered \$35 per acre, up to \$2,000 for cover crop incentives; 7 producers have planted 380 acres to cover crops.



Cover crops hold the soil in place after the soybean harvest and build up the soil quality.

He found that farmers were very willing to participate and be proactive. “They wanted to do whatever they could to prevent further regulation, but they were also concerned about water quality, soil health and sustainable farming,” he says.

The farmers who make up the groups are a mix of familiar and unfamiliar faces at land conservation offices. Brad Peterson, with the South Kinni group, says his family has always been fairly aggressive about trying new things. The neighbors seem to watch what they’re doing. “We had a few like us, and a few who would never go to the conservation office,” he says. “But if you take the initiative on your own, it looks like a better idea.”

Wojchik saw a similar pattern in the Horse Creek group. “We’re drawing in folks we’ve worked with in the past, certainly, but adoption of cover crops in particular is happening outside the watershed.” A mentor network has developed, and he says, “Adoption is happening at a fairly rapid rate...on some pretty big operations.”

Sitz notes that one of the original goals of the farmer-led groups was to reach people that the conservation department could not: “Signing up for incentives through the farmer-led group is simpler and possibly less threatening than

signing up with a government agency, even if the work that gets done remains the same.”

To reach new farmers, county conservationists and organizers start with community leaders. Ozaukee County conservationist Andy Holschbach works with the Milwaukee River Watershed Clean Farm Families. He’d already heard two farmers from the Horse Creek council speak at a meeting when the PLWP grant opportunity came up. He started with Jim Melichar, who operates a large dairy in the Town of Port Washington and chairs the county dairy promotion board. “I wanted his thoughts and ideas. I had a list of possible members, and Jim’s list was close to mine. We organized quickly, just set a meeting date and off we went,” he remembers.

The Milwaukee River group has even more partners than many of the other groups, probably because of its location on the edge of an urban area where everything eventually drains to Lake Michigan. Support for the group comes from both private and public organizations. His office’s main contribution is staff time, Holschbach says.



Jim Melichar (left), one of the leaders of the Milwaukee River producer-led group, and friends at an autumn 2016 field day.



Equipment demonstrations are part of many Producer-Led field days, including this one hosted by the Milwaukee River Watershed Clean Farm Families.

Other county conservation departments provide some staff support to other groups, too.

“But most important is the knowledge about conservation practices, and the network we have with other professionals and researchers,” he adds.

Sitz concurs. “I strongly feel that Land Conservation must always be part of the council,” he says. There’s the scientific expertise his office brings, but also the ability to keep council activities consistent with state and federal standards. And sometimes, it’s easier for him than a neighbor to tell a farmer that a practice really is not effective for soil and water conservation.

Producer-led conservation enhances the traditional LCD-led approach, Holschbach says. “It’s over and above. We now have farmers promoting conservation among their peers. That makes a huge difference. It has elevated our partnership, and helps us to better utilize our funds.”

With some experience under their belts, these

county conservationists offer some advice to their peers in other counties.

“Make sure there is enough commitment from members before starting a group, and set up some sort of leadership and structure right away,” Dan Sitz says. That way, the producers take on more responsibility rather than following the LCD’s lead. Switching up incentives, keeping things fresh, is important for maintaining momentum, he advises.

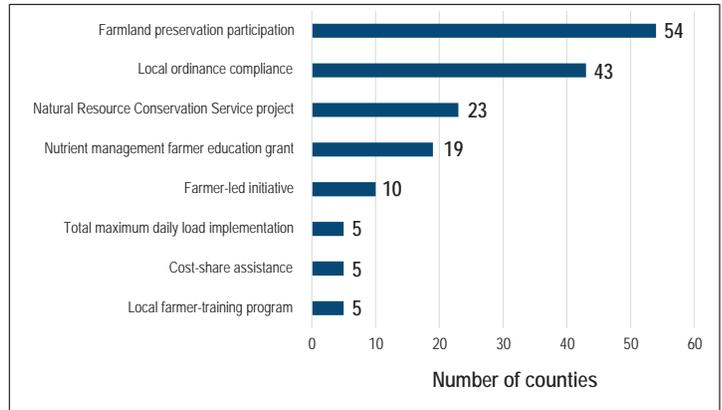
Wojchik recommends patience in building those relationships, but also a bit of fearlessness: “Don’t be afraid to approach those growers who have an interest in conservation practices and are implementing them and asking them to be leaders. Pick the low-hanging fruit.”

And plant the seeds from that fruit.

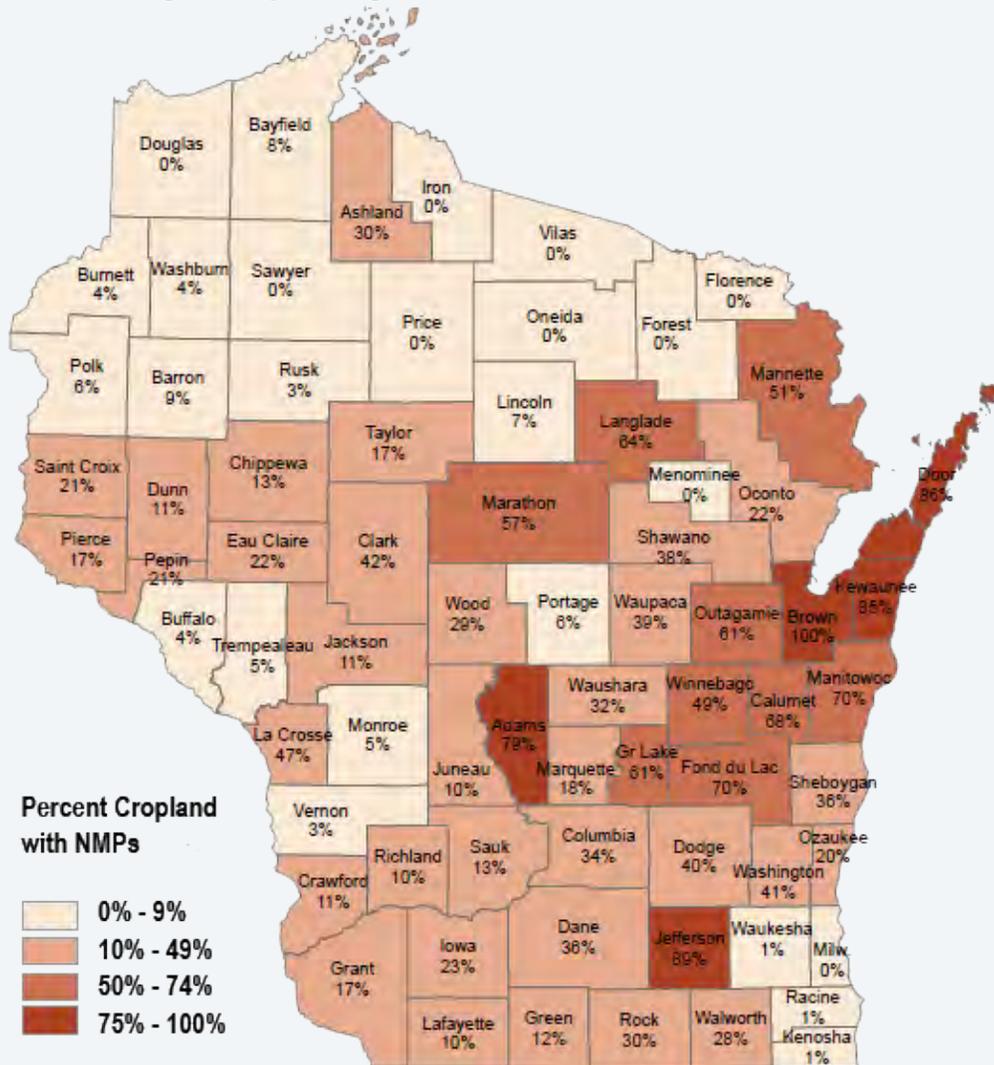
Nutrient Management Efforts in Wisconsin in 2016

Developing a plan for managing and applying nutrients on a farm is a key practice not only to meet crop needs, but also to protect soil and water resources. A nutrient management plan helps make decisions about the right source of nutrients for a crop, and the right time and rate for the application. Each year, more Wisconsin farmers develop a nutrient management plan for their operation. Often, the decision to develop a plan comes from participation in a local, state or federal conservation program.

Activities and programs that encouraged nutrient management plan development in 2016



Status of nutrient management planning in Wisconsin counties in 2016



Nutrient Management Plans Reported in 2016

7,125 nutrient management plans reported by farmers

2,960,000 acres covered by these plans

32% of Wisconsin's **9,000,000** cropland acres

Farmer Developed Plans in 2016

1,728 farmers wrote their own plans

496,319 acres covered by plans written by farmers

14% increase in farmer-written plans from 2015

24% of all nutrient management plans written by farmer

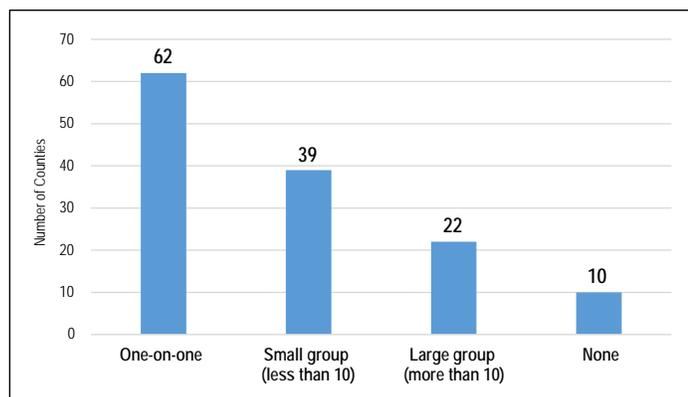
Nutrient Management Farmer Education (NMFE Grants) in 2016

Nutrient Management Farmer Education grants are provided to local grantees by the Wisconsin Department of Agriculture, Trade and Consumer Protection. The grants support educational programs used to teach farmers how to develop their own nutrient management plans.

\$101,064 in grants awarded to **11** grantees

30,532 acres covered by **106** plans written through the use of grants

Type of nutrient management and plan development assistance offered to farmers by county conservation offices



Wisconsin's Farmland Preservation Program

Farmers and landowners participating in the state's Farmland Preservation Program make a commitment to soil and water conservation. Local county conservation departments work with these voluntary program participants to ensure continued conservation efforts.

Farmland Preservation Program Participation*

13,376 Number of individuals who participated

2.5 million Number of acres on which farmland preservation credits were claimed

*as reported by the Wisconsin Department of Revenue for tax credit claims paid in 2016

Eau Claire County Golden Triangle AEA Exceeds Goal in Year One

In Eau Claire County, conservation and sound land stewardship have always been important to the farmers who pursued the formation of the Golden Triangle Agricultural Enterprise Area (AEA) in 2015. The farmers' decision to seek designation from the state as an agricultural enterprise area supported the group's strong commitment to agriculture while preserving the surrounding farmland for future generations.

In 2016, the first year of the AEA's designation, landowners enrolled in farmland preservation agreements covering 5,267 acres. These agreements ensure the land will be used only for agriculture for at least 15 years, and require the land to meet state soil and water conservation standards. In exchange, the landowner is eligible for an income tax credit.

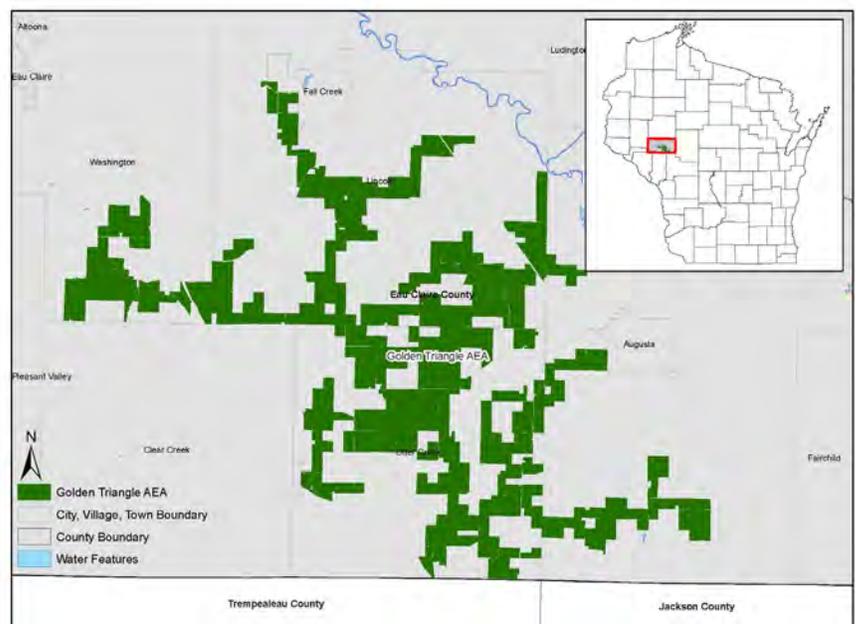
The 2016 achievement is equivalent to 25 percent of the Golden Triangle's total acreage - the group's initial goal for agreement coverage within the AEA.

Greg Leonard, Land Conservation Manager for Eau Claire County, worked closely with the farmers in the Golden Triangle AEA to help them achieve their goal. "The area in question was already engaged in conservation work, and this represented a logical next step, illustrating the community-wide commitment to achieve conservation goals," explained Leonard. According to Leonard, the economic benefits to signing an agreement were more of an afterthought.

The approach the farmers took to establish the AEA has been important in the success of the group. Through their community-wide conversations, the farmers identified those interested in participating in the program and included that land in the boundary of the AEA. Once the Golden Triangle AEA was officially designated, Leonard worked with the local governments and residents to host meetings to discuss the benefits of the farmland preservation agreement. This allowed for an informal setting where farmers could talk with each other and work out whether an agreement made sense for their operation.

Leonard doesn't see the momentum slowing down anytime soon. When asked about the group's new goal for agreement coverage in Golden Triangle, Leonard responded with "Let's go for 50 percent."

Golden Triangle Agricultural Enterprise Area



Map created by DATCP, April 2017



Photo: Ken Pozorski

Eliminating outside feedlot with a new freestall and housing facilities for manure transfer systems.

Number of Conservation Site Visits in 2016

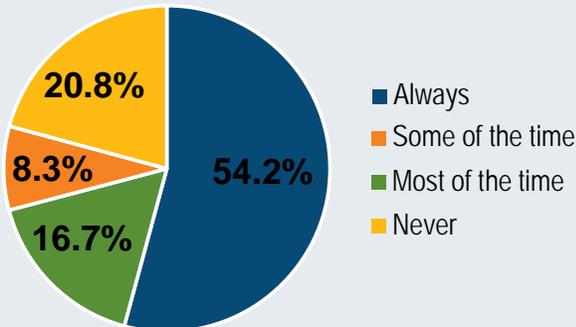
4,235 Farmland preservation conservation site visits

80% Farmland preservation participant sites found meeting conservation requirements

3,224 Visits to determine compliance with state standards under NR 151

83% Sites determined to be meeting state standards under NR 151

Percent of counties using farmland preservation site visits to determine NR151 compliance



Manure Management Improvements Lead to Eligibility Under Farmland Preservation Program

When the three brothers who own and operate Zernicke Farm, Inc., realized the need for improved manure storage to help solve some manure runoff issues from their feed lot, they turned to conservation partners. With the help of multiple state and county agencies to improve conservation practices on their family-owned farm, they found benefits beyond improved manure management. Now they meet the state soil and water conservation standards, and can also participate in the Wisconsin Farmland Preservation Program.

Ken Pozorski of Marathon County Conservation Department, with assistance from the Wisconsin Department of Natural Resources (DNR), worked with the farmers over a period of three years to install practices at the dairy needed to meet state standards.

Pozorski explained, “It was an interest in participating in the voluntary Farmland Preservation Program participation that first led us to visit the farm and have the conversations that needed to take place.”

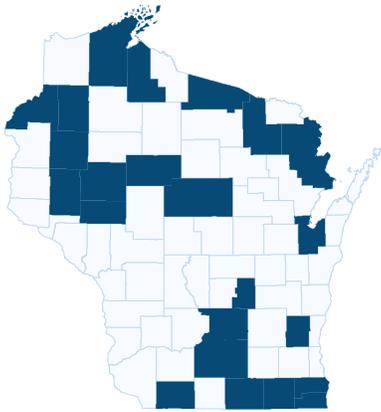
After an initial farm visit, a notice of discharge was issued to the farm. This allowed Pozorski to submit a Targeted Runoff Management grant application requesting funding from the Wisconsin DNR for improvements related to manure storage and other infrastructure needs.

Due to issues with bedrock, slope and current building orientation, the site proved difficult, requiring major earth grading and fill from an outside source to build the barn. By the end of 2016 however, the three brothers had eliminated the existing feedlot, installed a manure storage facility, and added additional collection systems to transfer manure to the storage. They also eliminated spreading manure in the winter.

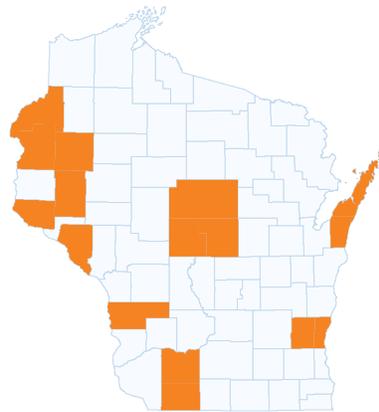
According to Paul Daigle, Marathon County Land and Water Program Director, “The improvements at the site came about through efforts to encourage farmers to meet conservation standards for Farmland Preservation participation, but grew into something much more that the farmers and Marathon County are now proud of.”

Water quality improvement strategies in Wisconsin

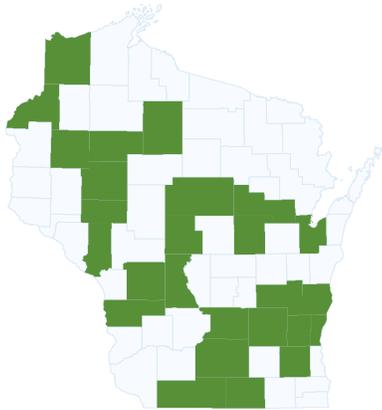
NINE-KEY ELEMENT PLANNING



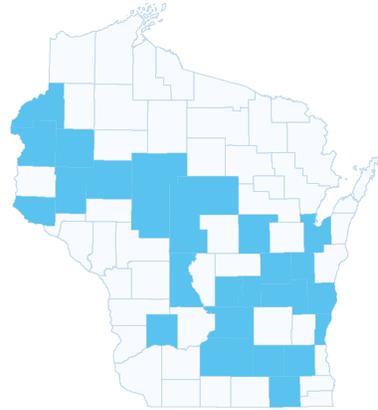
PRODUCER-LED INITIATIVES



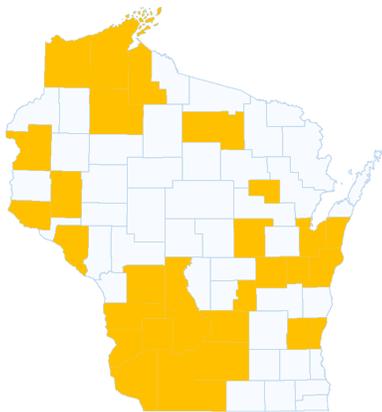
MUNICIPAL PHOSPHOROUS REDUCTION STRATEGY



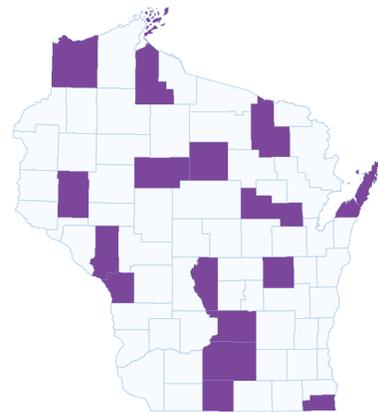
TMDL DEVELOPMENT AND/OR IMPLEMENTATION



NRCS INITIATIVE (e.g. GLRI, NWQI, RCPP)



OTHER IMPAIRED WATER PROJECT



As reported by Wisconsin counties in March 2017. Created by DATCP May 2017.

Finding Local Solutions to Improve Water Quality: **Wilson and Annis Creek Watershed Partnership**



Dahlke's land.

Photos: Dale Dahlke

In an effort to get citizens involved in conservation, Dunn County Land and Water Conservation Department (LWCD) partnered with the Natural Resources Conservation Service (NRCS) to create the Wilson and Annis Creek Watershed Partnership (WACWP). WACWP is a citizen-led group that promotes land stewardship and prioritizes best management practices for water quality improvement.

The group's ultimate goal is to remove Wilson Creek from the impaired waters list, but they know this will take some time. An impaired water is one that does not meet water quality standards. For now, they help identify priority practices, rank projects, and communicate the benefits of their work to other landowners, according to Lindsay Olson, Dunn County LWCD Water Quality Specialist.

"People don't want to be told what to do, they want to be part of the decision-making process. It's really important to have citizen involvement and

guidance," said Olson. "I think it makes the whole project more successful because they're excited about it, they're part of the solution, and they're also more willing to share the project with their neighbors and friends, and hopefully garner more interest that way too."

WACWP was started just over a year ago, and the group started by planting some cover crops last fall. In Spring 2017, they'll start putting in conservation practices to reduce the amount of sediment and nutrients getting to the streams.

These practices will include stream crossings for livestock, fencing, roof runoff structures, grass waterways, and plantings to stabilize areas prone to erosion.

...they're excited about it, they're part of the solution...

These projects will be paid for by the NRCS National Water Quality Incentive (NWQI) fund, which is for installing conservation practices to benefit water quality in selected watersheds with impaired water like Wilson Creek.

The NWQI fund provides \$300,000 each year for three years, with a possible extension to five years. Given the amount of funding available, almost every project is expected to be funded, said Olson.

As practices are installed, Dunn County LWCD will work with the Wisconsin Department of Natural Resources (DNR) to monitor changes in water quality. The DNR set up additional sampling sites, and the county is tracking where conservation practices are put in place and running computer models that help to estimate reductions in the amount of phosphorus that reaches the water.

Cooperation between the county, DNR and NRCS is essential to accomplishing these tasks. With help from these partners, Dale Dahlke was able to restore a streambank on his land. Dahlke owns a large plot of land on the south fork of Wilson Creek, and the stream on his land was seriously eroded and laden with sediment. As a board member of his local Trout Unlimited chapter, Dahlke had worked on several stream restorations. He knew his land could benefit from participation in this type of conservation project, but it would be expensive, and he needed some help to make it happen.

Wisconsin Trout Unlimited helped Dahlke write and secure grants. The NRCS contributed from its NWQI fund and the DNR employed Trout Stamp funding, as well as providing Dahlke with a DNR easement. The completed restoration project narrowed the streambank, protected walls from erosion, installed luncker structures for fish habitat and removed invasive plant species.

This boosted the level of animal life and diversity in the stream, said Dahlke. Without the generosity and collaboration of so many groups, the stream on his land might still be muddy and deserted. Now, it's teeming with life.

"The insect life is profuse and diverse – diversity is the name of the game in an environmental community," said Dahlke. "The trout are incredible. They no longer have to stock fish in the stream, and people are constantly fishing out there."

This diversity now extends beyond the stream as well. Dahlke used the money from the easement to complete a 20-acre prairie restoration on both sides of the stream. The prairie keeps invasive plant species at bay, and a lot of wildlife has returned as a result.

Dahlke said he hopes that the state of Wisconsin, through the DNR, is able to continue providing funds so that more landowners can get involved. "These projects are expensive. If I hadn't gotten the easement cost, I wouldn't have been able to do my prairie. Without the trout stamp money, the DNR wouldn't have been able to do the stream restoration," said Dahlke. "We can't expect landowners to take on that burden. If we want them to prevent the phosphorus going in, we have to lend that financial hand."



Before restoration.



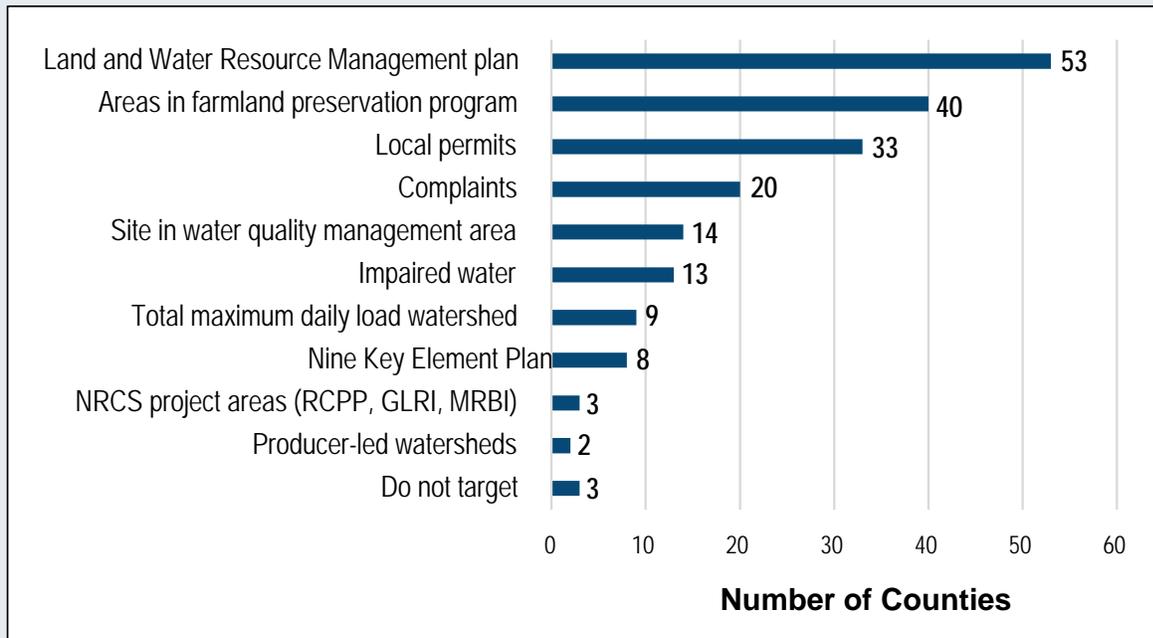
During restoration.



Targeting areas for conservation

Wisconsin’s conservation partners use a variety of strategies to identify key areas for conservation practices and prioritize use of existing resources to meet soil and water conservation needs. Local strategies for targeting conservation activities are often defined through the county’s land and water resource management plan, or based upon citizen engagement with local and state programs.

Top strategies used by county conservation departments to target areas for conservation



Outreach and Education Highlights in 2016

Successful soil and water conservation takes more than installing and implementing conservation practices on the landscape. It takes an understanding of why these practices are needed, and what benefits they provide. Strong education and outreach programs help to foster this understanding. In 2016, farmers, landowners, school-aged children and other interested individuals had many opportunities to both participate in educational opportunities and to learn about on-going conservation activities.

St. Croix County Outreach Succeeds

People in St. Croix County take their water seriously. That's thanks in no small part to the outreach efforts of the county's Land and Water Conservation Department.

In 2016, the department continued its successful Residential Drinking Water Testing Program with three events that drew 89 residents from four towns. As a result, 76 households followed up with water quality testing for bacteria and nitrates. The county's program began in 1988, reaching each township about every five years, and testing over 4,000 private wells. Homeowner participation has been so successful that the county has never needed to offer cost-sharing or other incentives to convince residents to participate.

Tammy Wittmer, conservation planner, oversees the program. She explained that the three towns chosen for programs last year – Forest, Emerald and Stanton – have histories of bacterial problems with wells and rising nitrate levels. Town of Stanton residents are also concerned about water quantity because of the increasing number of irrigation wells. Town of Cylon residents were also encouraged to participate to expand the water quality

data for that town. The programs attracted residents interested in repeat testing and about 50 percent newcomers, Wittmer said.

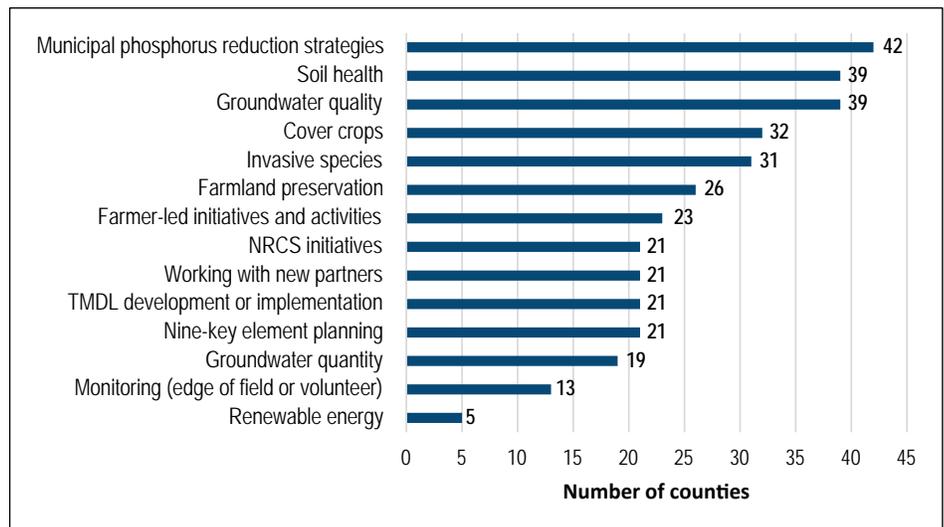
Each program included an education element, "Groundwater and Drinking Water 101." Topics covered included local geology, aquifers, bedrock type, well construction standards, health effects of contaminants, and how to collect a water sample. Those attending could pick up water test kits and, as an added incentive, they could also get free radon test kits.

The drinking water program has been very successful, but continuous improvement is always a goal of the county staff. Wittmer says the county uses the water quality test results to find hot spots or identify water quality trends, and they work with homeowners who have questions about their results. "We are expanding our outreach with



Photo: Tammy Wittmer

Local emerging conservation topics in Wisconsin counties as reported in March 2017



Local county offices are seeing a growing interest in, or need for, education and outreach on an increasingly diverse range of conservation topics.

Outreach and Education Activities Conducted by Counties in 2016

78 tours

417 field days

1,300 trainings and workshops

1,146 school-age programs

1,453 newsletters

1,644 social media posts

407 news stories

greater social media presence on Facebook and YouTube, hoping to encourage annual water testing and routine well inspections by homeowners,” she says. Groundwater results have been tracked using the county geographic information system (GIS) to identify trends. Staff are also adding well construction information to the GIS database and using 3D visualization tools to merge water quality with well construction. The next step will be a project scope and budget for a countywide water testing program that would provide a baseline dataset and would identify and set up a uniform group of homeowners willing to participate over several years.

The Rainmakers of Sauk County

Creating a rainstorm is a pretty slick trick to have up your conservation sleeve, but Sauk County’s Office of Conservation, Planning and Zoning can do just that.

After seeing a rainfall simulator in a video at the 2016 Wisconsin Land and Water Conference, staff in the office decided to invest in one. The Lake Redstone Protection District and Pheasants Forever Sauk County Chapter split the \$15,000 cost with the county.

“I always say that our staff drank the soil health Kool-Aid,” says resource conservationist Melissa Keenan. “It’s the best way to protect soil and water and keep farms productive and profitable. This tool helps get that message across.”

People realize that water will run off bare soil, she says, but the simulator shows farmers what can happen even when there’s residue and/or vegetation. The staff sets up pans with different

land uses: clean-till, low- or no-till, cover crops and no-till, overgrazed pasture and rotationally grazed managed pasture. Then, they use a hose with a sprinkler nozzle and collect both the runoff and the infiltration.

“The difference in the two pastures has been the biggest eye-opener,” Keenan says. People expect that any pasture will stop runoff, but the simulator shows that runoff from the overgrazed pasture pan is almost as severe as from the pan with heavily tilled soil.

The device simulates a catastrophic rainfall, which people like to blame for the runoff they see in some of the pans. But Keenan turns that argument around: there’s little runoff from pans with no-till, cover crops or managed pasture, even in such a deluge. “An average rainfall will leave that untouched,” she says.

So far, a couple hundred farmers have seen the demonstration at field days, pasture walks, and the county fair. The county plans to use it at youth conservation days the office hosts for local school districts and take it to the county’s dairy breakfast. And the county hopes to reach out to local crop consultants to use the simulator at customer appreciation days.

“We’ve been able to encourage more rotational grazing, no-till and cover crops,” Keenan says. That’s outreach that does the job.



Aaron Pape, Sauk County’s former education coordinator, uses the county’s new rainfall simulator to demonstrate how good cover and healthy soil can protect both land and water.

Conservation Reserve Enhancement Program

Celebrating 15 Years... and Counting

The benefits that come from conservation through the Conservation Reserve Enhancement Program (CREP) are best seen on Wisconsin's rainiest days. Those benefits are the result of riparian buffers, grassed waterways, wetland restorations, grass plantings. When properly installed, the practices blend into the land and agricultural operation and prevent sediment and nutrients from surface water.

CREP pays landowners to voluntarily take land out of production and install conservation practices to protect water quality, either through 15-year contracts or perpetual easements. CREP was launched in 2001, so the program had a particularly busy 2016, when those first 15-year contracts came up for renewal. The program enrolled or reenrolled 2,200 acres under about 400 agreements last year.

The success of CREP is dependent on county land conservation offices. It is these conservation professionals who are the boots on the ground. Like most conservation work in Wisconsin, CREP also involves partnerships with the USDA Farm Service Agency and Natural Resources Conservation Service. And, of course, the landowners.

Under USDA allotments, Wisconsin can enroll up to 100,000 acres in CREP. So far, nearly 4,600 landowners have enrolled close to 49,000 acres.

Wisconsin is one of 30 states participating in CREP. Among those 30, it ranks sixth in the number of contracts signed and 11th in acreage covered.

In Wisconsin, with terrain that varies from the Driftless Area to the Central Sands to the shallow bedrock of the Niagara Escarpment, CREP on the landscape varies from county to county. Because it's up to counties to promote the program to their landowners, their resource needs play a role in how robust the program is locally.

Take Monroe County. Here in the Driftless Area, where valley floors make the best cropland, "We're approaching 85 contracts, but it's a hard sell to get active farmers to enroll lands even if they're prone to flooding," says County Conservationist Bob Micheel. The same hills-and-valleys landscape that limits arable acres makes for some high-quality trout streams, so landowners enrolling their lands have focused a good deal on stream restoration, planting prairie and cool season grass on the banks.

"We targeted certain watersheds, based on their potential for restoration as trout streams. We do a lot of stream restoration,

converting box elder choked stream corridors to grass cover," Micheel says. "If they're doing stream restoration, it's perfect to encourage them to enroll the land in CREP, too."

Another unique use of CREP in Monroe County is its pairing with the DNR's phosphorus trading program. The program allows WPDES permit holders with high pollutant reduction costs to compensate someone else to achieve less

You always want to make a difference while you're on this earth



CREP site on the Galena River.



Mature CREP site.

costly reduction. Municipalities help pay to get land into CREP and, in return, receive credit for the phosphorus reductions that result from landowners' conservation practices.

In this case, the landowner must choose the permanent easement CREP option rather than a 15-year contract, which is right in line with Micheel's philosophy. "Initially, 15-year agreements were the norm, but my push the last couple of years has been that we need to get out of the temporary environment and get into a legacy."

One of Monroe County's newest CREP enrollees, Greg Schauf, agrees. After a century of dairy farming, the Schauf family sold their herd six years ago and Greg took an off-farm job. They've been renting out some hay ground and cash cropping the rest. A year ago he went looking for some advice from the conservation office. When Christina Mulder, a conservationist on staff, came to look over his land, she broached the subject of CREP. The five acres that were eligible bordered a stream and had always been planted to corn or soybeans. Schauf has recently finalized the perpetual agreement, and is working with the local LCD and NRCS offices on plans to plant the conservation cover and control weeds.

He chose a perpetual easement partly because of the nice signing bonus, he says, but adds, "Bob (County Conservationist) made a good point. You always want to make a difference while you're on this earth. This is something that can never be changed. I believe in taking care of the land. It's not here for us to keep; it's to pass on to the next generation...I think most people look at owning

land like a privilege, but I think we need to look at it as a responsibility."

One of the keys, Micheel says, is having enough staff time at the local offices to focus on CREP. That was also the case in Kewaunee County. When conservation specialist Erin Carviou joined the county Land and Water Conservation Department, she brought her experience working with CREP from her previous job at the USDA Farm Service Agency.

With Erin's help, the county is actively working to increase landowner participation in the CREP program. The county has 15 signed contracts, and five more are scheduled to expire. Erin has already gotten four of those contracts re-enrolled, and has added two more so far this year. She has 10 more landowners she's talking to, all of whom have said they will enroll any eligible lands they have.

Like Monroe County's contracts, most of Kewaunee's are with landowners who have been renting land to active farmers. "Available tillable land and land where you can spread manure are scarce in Kewaunee County due to the high demand, so we have to deal with that," Carviou says. But she's trying to use the shallow bedrock and karst topography to promote CREP. If farmers can enroll land where there are sinkholes, it gives them a layer of protection against the risks to groundwater from spreading manure too close to them.

At the other end of the spectrum is Grant County, where CREP kind of sells itself, says Lynda Schweikert, administrator of the county's Conservation, Sanitation and Zoning Department. With 271 contracts, including 8 perpetual easements, and more than 3,200 acres enrolled, she says, "It's one of those programs that doesn't get a lot of attention, because it takes care of itself." Schweikert points out that the uptick in CREP rates in recent years has helped sell the program, as commodity prices have fallen.

As landowners enroll and re-enroll in the program, the state is receiving environmental benefits in the form of thousands of pounds of nitrogen, phosphorus and sediment being kept out of our valuable water resources every year.

Reducing Runoff in the Pipe Creek Watershed

In May 2014, a manure spill occurred in Fond du Lac County during the draining of a lagoon. Although mitigation steps were promptly taken, 50,000 gallons of manure was released, and nearly a quarter of it reached Pipe Creek. Pipe Creek drains into Lake Winnebago, which is identified on Wisconsin's impaired waters list for both total phosphorus and sediment. The incident was unfortunate, but it became a catalyst for conservation projects in the Pipe Creek watershed.

After visiting the site in response to the spill, Ryan Rice, a conservation engineering specialist for Fond Du Lac County Land and Water Conservation Department, realized that it would be a great spot for a water and sediment control basin (WASCOB).

Construction began with a rock-lined waterway to stabilize the outlet and the installation of a grassed waterway in 2015. In the spring of 2016, the installation of the WASCOB was completed.

"It was quite a feat to get that thing built," said Rice. "It took us a long time to get to the point where we could talk about construction. The location made it challenging because it gets very close to an easement, but once we were able to work through those logistics, the cost-sharing part came together."

The WASCOB has two large knife valves, which can be shut if there is another spill. The practice also slows water down and prevents flooding for lakeshore homeowners, which is a constant issue due to the topography of the watershed. The change in elevation from the lake homes to the farms uphill is significant.

The conservation challenges in the Pipe Creek Watershed include soil erosion. County staff were aware of these erosion issues and have spent time talking with farmers and homeowners about the impact of this erosion on water quality. These water quality issues are particularly visible in the harbor and at the county park at the mouth of Pipe Creek



Plunge pool, outletting to a grassed waterway and ultimately a rock lined waterway down slope.

during and after rainfall events, said Paul Tollard, County Conservationist in Fond du Lac County. In fact, during these events, the sediment is visible not only in the creek, but also out into Lake Winnebago.

Tollard believes it will take a combination of structural conservation practices, like the WASCOB, and cropping practices, such as cover crops and nutrient management, to successfully mitigate runoff and erosion in the watershed.

And the county is taking steps to work throughout the Pipe Creek Watershed to accomplish this goal.

The Fond du Lac County Land and Water Conservation

Department has been working with landowners to implement conservation practices for years. Mike Tasch, who owns land adjacent to the 2014 manure spill and first saw the spill, spoke highly of his relationship with the county and wants to see other landowners have a collaborative relationship with them. "There can be a lot of skepticism (about conservation practices) in the farming community, but we want (other farmers) to come out and look

We have good participation from the landowners and producers

at our land, so they can see that these practices are doing what they're supposed to do," said Tasch.

"We're working out much farther into the watershed than what the (lake) homeowners like, but that's because once the runoff gets to the homes, there's not much we can do," said Tollard. "We're choosing to look at it from the water quality standpoint, so if we can do practices that will minimize erosion and allow more infiltration, hopefully that will impact the amount of flooding that homeowners are experiencing."

At the beginning, most of the money the county had was for the structural conservation practices. In search of funding for cropping practices, they applied for a grant through the Great Lakes Commission (GLC) for Pipe Creek conservation efforts. They were awarded that grant in 2016, and have been working on implementing conservation practices in the Pipe Creek Watershed since.

The grant from GLC lays out a phased approach. The county is still in phase one, which asks producers in the watershed to confirm that their nutrient management plan information is accurate. Through a nutrient management plan, opportunities for changes in management and installation of practices to reduce erosion and phosphorus runoff are identified. It's up to the landowners to step up and install those practices or make those changes, said Tollard.

Although it is still early in the project, progress is visible. "A large majority of land in the watershed is already signed up for phase one. It's encouraging that as we move through this process, we have good participation from the landowners and producers," said Tollard. "We'll approach phase two once we get to that point."

Phase two of the grant discusses options for



Hooded inlet pipes, looking upstream to the grassed waterway

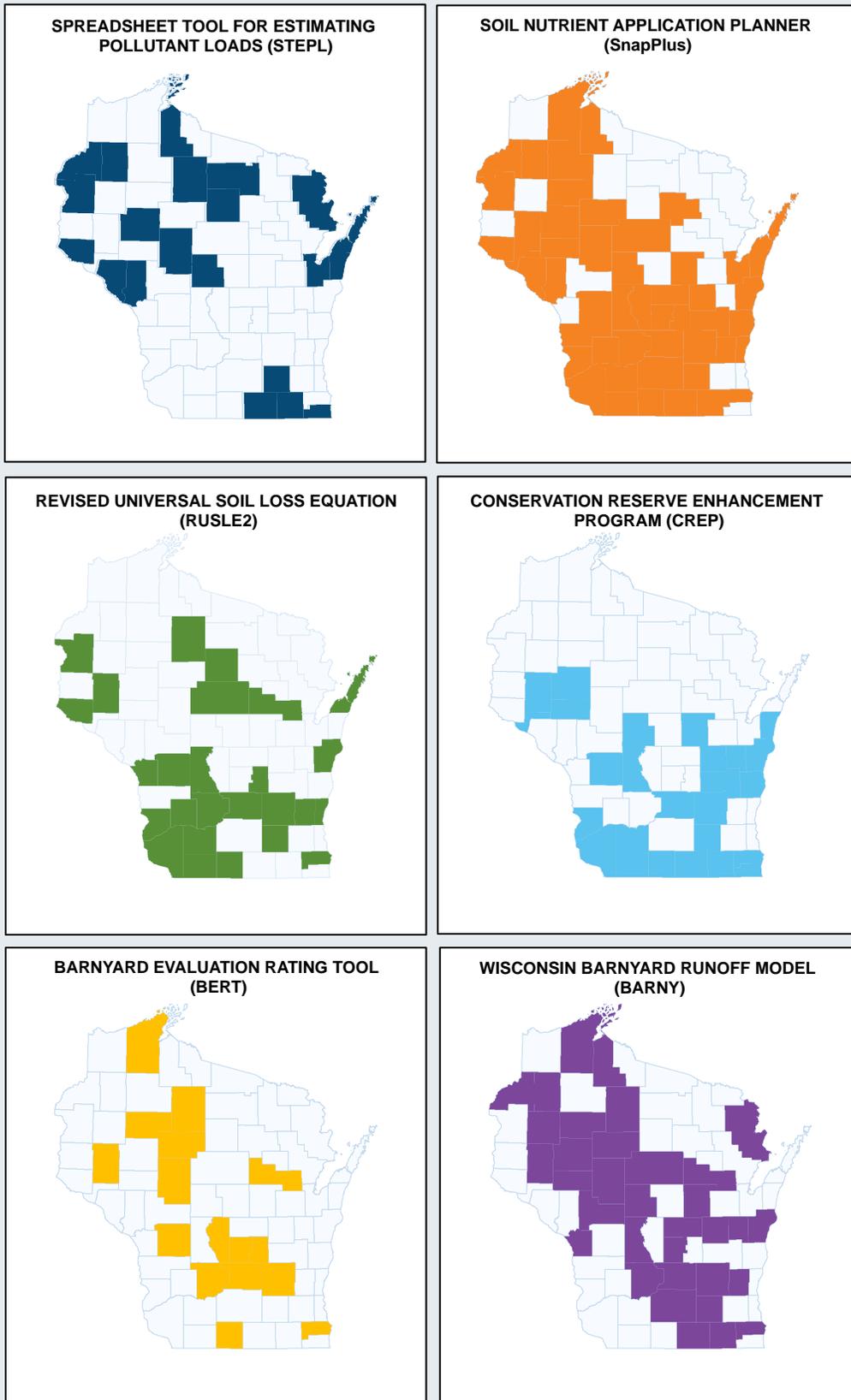
Photo: Kalyia Zacharias

cost-sharing and funding for other conservation work. This funding will be a combination of state and county cost-share dollars, the GLC grant and any other funding the project can receive from the NRCS Environmental Quality Incentives Program (EQIP). Rice and Tollard believe the scale of the watershed has contributed to this early success. The watershed is relatively small, and most of the land is owned by just a few people. Because of this, the county conservation department can more easily contact all of the landowners to talk about the conservation challenges in the watershed and to help identify conservation practices that could work for them.

The GLC grant has allowed them to move forward with harvestable buffers, which they have planned for implementation in 2017. The Fond du Lac LWCD has additional waterways and WASCOD projects in the planning stage, and it's looking like it will be a busy summer for county conservation.

"We've done some great projects already and are planning as much as we can to do more in the project area," said Tollard. "We hope to keep the momentum going."

Methods to estimate phosphorous and sediment reductions

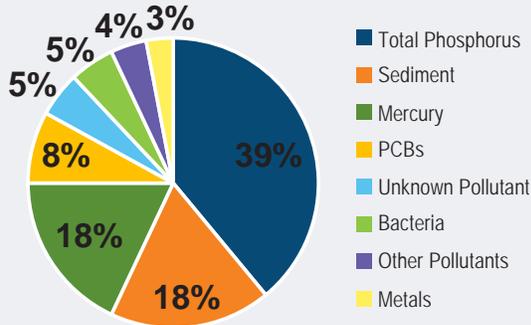


As reported by Wisconsin counties in March 2017. Created by DATCP May 2017.

Wisconsin Water Quality

Surface water quality can be significantly impacted by sources of phosphorus and sediment. Over half of Wisconsin’s impaired waters are impaired because of phosphorus and sediment. Efforts to install and implement conservation practices on the land reduce the amount of these pollutants that reach Wisconsin’s waters.

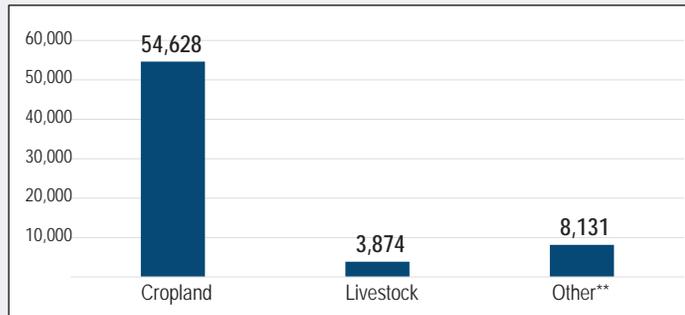
Causes of impairment



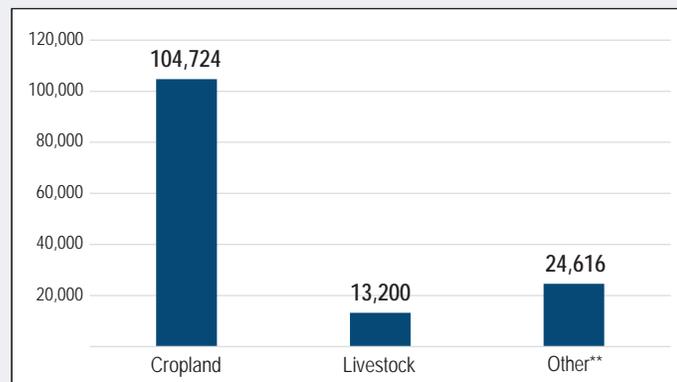
Causes of impairment (or pollutants) for waters included on Wisconsin’s 2014 CWA Section 303(d) list of waters not meeting water quality standards. (“Unknown Pollutant” listings are biological or physical habitat impairments where the pollutant is not known.)

Estimated Load Reductions from Conservation Practices Reported in 2016*

Sediment reduction in tons



Phosphorus reduction in pounds



*The numbers shown here only capture reductions that were tracked in 2016 and reported by counties in March 2017. Reductions for all conservation practices are not able to be calculated and tracked. As a result, the numbers shown here highlight just a fraction of the likely total reductions in phosphorus and sediment that resulted from conservation activity in 2016.

**“Other” conservation practices include streambank stabilization, riparian buffers, critical area stabilization, and forestry practices.

Wisconsin Conservation Activities

Much is done each year to help protect and improve the natural resources in Wisconsin. These accomplishments are carefully guided by the resource needs and through the prioritization of available resources. One tool to help identify local soil and water resource needs and to develop strategies to address these needs is the county's land and water resource management plan. Every county has one of these plans and each year, the county develops a work plan designed to make progress toward conservation goals identified in the plan.

Conservation efforts planned for 2017 show the diversity and scope of conservation work anticipated by the 72 county conservation departments. Counties plan to work with farmers and landowners to install and implement a variety of conservation practices. They will conduct conservation site visits and permit inspections. They will manage invasive species, engage in forestry-related work, restore wetlands and conduct water quality monitoring. In addition, they will continue to provide education on conservation topics and develop outreach to help share information about conservation needs and the work that is being done.

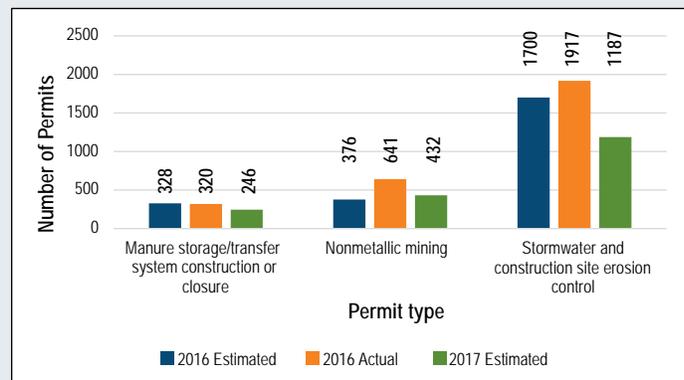
The information on the following pages summarizes some of the work completed in 2016 and highlights some of the activities planned for 2017.

Select Conservation Activities Implemented in 2016

Summary of select conservation practices installed with county help in 2016

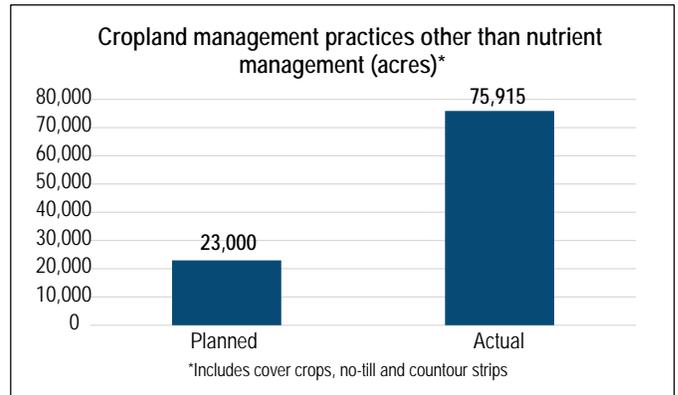
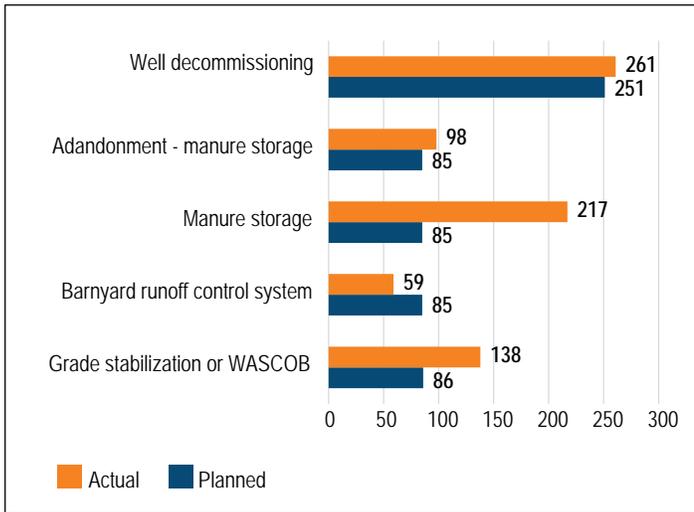
- 378** acres of grassed waterways
- 3,582** acres of grazing plans
- 250,626** feet of livestock fencing (47 miles)
- 86,710** feet of streambank/shoreline protection (16 miles)
- 19,705** feet of trails and walkways (3.7 miles)
- 12** sinkhole treatments
- 32** forest management plans
- 68** roof runoff systems
- 22** feed storage runoff control systems
- 39** milking treatment systems

Number of estimated and actual permits issued by county conservation department staff in 2016 and 2017

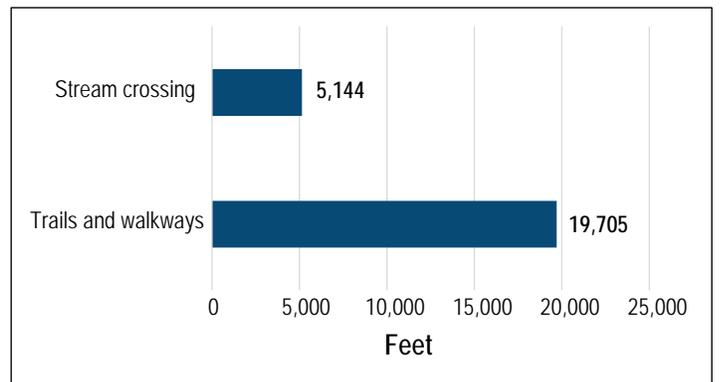
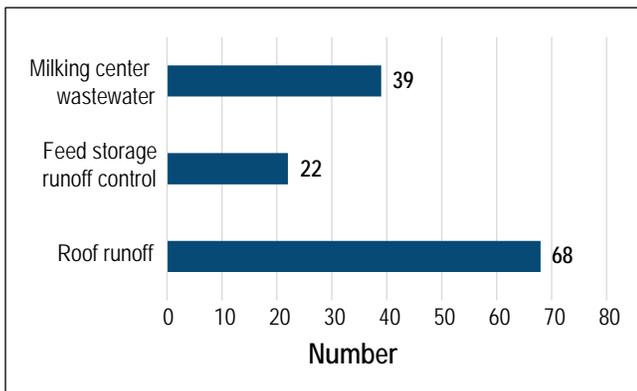




Number of select conservation practices installed in 2016, compared with estimate from 2016 county work plans



Runoff control assistance in 2016



Conservation Practices Planned for 2017

Livestock-Related Practices

- 109** manure storage facilities
- 69** manure storage closures
- 61,950** feet of livestock fencing (11.7 miles)
- 48** barnyard runoff control systems
- 24** watering facilities
- 38** roof runoff systems
- 14** feed storage runoff control systems
- 14** milkhouse treatment practices
- 48** stream crossings
- 13** roofs
- 17** grazing plans

Cropland and Pasture Practices

- 1,750** acres of contour strips
- 90** water and sediment control basins
- 17,350** acres of cover crops
- 9,990** acres of no-till
- 52** counties helping review and revise nutrient management plans

Other Water Quality Practices

- 241** well abandonments
- 36,000** feet of shoreline protection (6.8 miles)



Conservation Site Visits and Inspections (2017)

3,013 farmland preservation conservation site visits

1,370 visits to determine compliance with state performance standards under NR 151

357 county animal waste permit inspections

21 livestock facility siting permit inspections

2,234 stormwater and construction site erosion control permit inspections

988 non-metallic mining permit inspections

Other Conservation Activities (2017)

Water quality monitoring

22 counties involved in lake and/or stream monitoring

21 counties with a groundwater monitoring program

Invasive Species

32 counties conducting invasive species surveys

37 counties conducting education programs

32 counties conducting control measures

Forestry and Wetlands

30 counties engaged in forestry-related work

22 counties installing wetland restorations

Outreach and Education (2017)

80 tours

69 field days

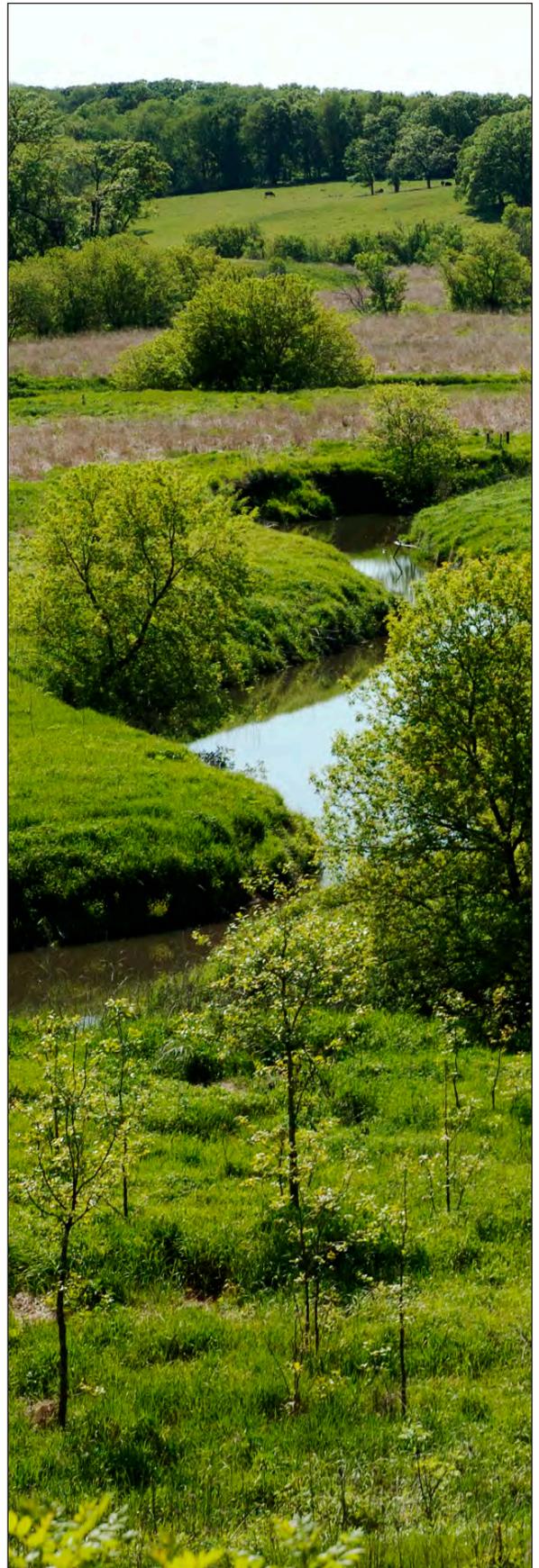
242 trainings and workshops

551 school programs

34 counties distribute newsletters

52 counties release stories to the media

31 counties use social media



Best Management Practices Installed in 2016

Table 1: Practices installed using soil and water resource management funds in 2016, WI DATCP

Conservation Practices		Practices Installed		
		Acres	Feet	Number
Soil Erosion Control	CREP equivalent	21.85		
	Animal trails and walkways		24,846 ft	
	Cover and green manure crop	572.91		
	Critical area stabilization			23.67
	Diversions		5,875 ft	
	Field windbreaks		21,970 ft	
	Grade stabilization structures			35
	Riparian buffers	32.43		
	Sinkhole treatment			2
	Streambank crossing		2,235 ft	
	Streambank and shoreline protection		32,160 ft	
	Subsurface drains			8
	Terrace systems		1,549 ft	
	Underground outlet			26
	Water and sediment control basins			10
	Waterway systems	114.29		
Manure Management	Manure storage closure			41
	Manure storage systems			18
	Access roads		9,603 ft	
	Barnyard runoff control systems			26
	Livestock fencing		40,867 ft	
	Livestock watering facilities			24
	Milking center waste control system			2
	Nutrient management	74,686.41		
	Residue management	246.00		
Roof runoff systems			27	
Roofs			4	
Waste transfer systems			8	

Continued on next page

Table 1: Continued

	Wastewater treatment strips		400 ft	
Other Practices	Prescribed grazing; permanent fencing		116,687.18	
	Prescribed grazing; established permanent pasture	120.33		
	Well decommissioning			170
	Wetland development or restoration	13.15		
	Feed storage runoff control systems			2

Table 2: Agricultural best management practices installed in calendar year 2016, WI DNR

Best Management Practice	Installed
Access roads and cattle crossings	1,187 feet
Barnyard runoff control systems	6
Critical area stabilization	1 acre
Diversions	1
Feed storage leachate	3
Manure storage systems	14
Milking center waste control systems	2
Streambank/shoreline protection	40,581 feet
Underground outlets	2,665 feet
Waste transfer systems	7
Wastewater treatment strips	1 acre
Water and sediment control basins	1
Waterway systems	36 acres
Wetland development or restoration	1 acres

Table 3: Urban best management practices installed in calendar year 2016, WI DNR

Best Management Practice	Installed
Storm water management plan development	3
Information & education activities	1
Urban detention activities	4
Urban stormwater/erosion plan	20
High efficiency street sweeper	1
Other urban practice	1

Table 4: Top 40 environmental quality incentive program obligated practices by USDA-Natural Resources Conservation Service (includes all initiatives and special funding)

Practice	Practice Count (Number)	FY16 Obligation (Dollars)
Cover crop	1,205	6,322,564
Waste storage facility	41	3,509,753
Fence	205	1,082,476
Waste transfer	55	902,290
Heavy use area protection	108	874,928
Lighting system improvement	15	705,938
High tunnel system	78	683,864
Roofs and covers	11	597,082
Waste facility closure	29	576,929
Comprehensive nutrient management plan cap	58	497,700
Prescribed grazing	254	486,736
Waste treatment	6	474,023
Grade stabilization structure	48	411,227
Conservation cover	107	408,307
Pumping plant	48	406,171
Streambank and shoreline protection	36	395,801
Access road	49	380,408
Grassed waterway	178	361,392
Early successional habitat development/management	89	332,536
Forage and biomass planting	100	314,737
Mulching	177	309,487
Brush management	124	289,313
Livestock pipeline	106	269,378
Sprinkler system	10	233,798
Forest stand improvement	67	194,340
Trails and walkways	24	188,628
Pond sealing or lining, flexible membrane	5	171,697
Subsurface drain	28	156,076
Lined waterway or outlet	15	152,102
Underground outlet	46	142,726
Stream crossing	61	132,308
Tree/shrub establishment	66	117,946
Spoil spreading	78	116,555

Continued on next page

Table 4: Continued

Practice	Practice Count (Number)	FY16 Obligation (Dollars)
Forest management plan cap	64	110,378
Obstruction removal	73	106,933
Residue and tillage management, no-till	71	96,431
Waste separation facility	4	92,308
Farmstead energy improvement	7	82,855
Wetland restoration	21	82,141
Aquaculture ponds	3	79,616



**Wisconsin Department of
Natural Resources**
Bureau of Watershed Management

101 S. Webster St.
WT/3
Madison, WI 53703
Fax: 608-267-2800
<http://dnr.wi.gov/>



**Wisconsin Department of Agriculture,
Trade & Consumer Protection**
Bureau of Land and Water Resources

2811 Agriculture Drive
PO Box 8911
Madison, WI 53708-8911
608-224-4611
<http://datcp.state.wi.us>

The report is available on the following website:
<https://datcp.wi.gov/Pages/Publications/LandWaterAnnualReport.aspx>